



Section 2.2

AIR QUALITY



2.2 Air Quality

Air quality impacts are addressed in Section 4.9 of the EOMSP Final EIR. The previously certified Final EIR concluded that air quality in the Specific Plan area would not be significantly affected by temporary and localized construction emissions; however, the EOMSP would have significant impacts to regional air quality due to the traffic emissions generated during construction and operation. Mitigation measures were identified in the EOMSP Final EIR. The County determined in the *Environmental Review Update Form for Projects with Previously Approved Environmental Documents* for the proposed project that despite the implementation of prior measures (including best management practices), there would be a potentially significant impact on regional air quality related to fugitive dust and ozone precursors during project construction and operation. Since certification of the EOMSP Final EIR in 1994, the San Diego area has been classified as a nonattainment area under the California air quality standards for ozone and particulate matter, which is a changed circumstance from the prior EOMSP Final EIR.

Urban Crossroads prepared a project-specific, air quality technical report to evaluate the construction and operational emissions of the proposed project and cumulative air emissions (Urban Crossroads 2010a). They also prepared a health risk assessment (Urban Crossroads 2010b). The following section summarizes information and data contained in these technical studies. Appendices C and D to this Draft SEIR contain the air quality report and health risk assessment, respectively.

2.2.1 Existing Conditions

Climate and Meteorology

The proposed project site is located within the San Diego Air Basin (SDAB), which is a generally homogenous climatic zone that includes all of western San Diego County. The climate of the SDAB is dominated by a semi-permanent high-pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. The high-pressure cell also creates two types of temperature inversions that may act to degrade local air quality.

Subsidence inversions occur during the warmer months, as descending air associated with the Pacific high pressure cell comes into contact with cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants. The other type of inversion, a radiant inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce ozone (O₃), commonly known as smog.

Regulatory Setting

Air quality is defined by ambient air concentrations of specified pollutants identified by the United States Environmental Protection Agency (USEPA) to be of concern with respect to the health and welfare of the general public. The USEPA is responsible for enforcing the federal Clean Air Act

(CAA) of 1970 and its 1977 and 1990 amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on the public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several pollutants (called 'criteria pollutants'). Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere. Table 2.2-1 presents a summary of the ambient air quality standards adopted by the federal and California Clean Air Acts.

The California Air Resources Board (CARB) is the state regulatory agency with authority to enforce regulations to both achieve and maintain the NAAQS and California Ambient Air Quality Standards (CAAQS). The San Diego Air Pollution Control District (APCD) is the local agency responsible for the administration and enforcement of air quality regulations for San Diego County. The APCD and SANDAG are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB.

The CAA plan for San Diego County, Regional Air Quality Strategy (RAQS), was initially adopted in 1991 and is updated on a triennial basis. The RAQS was most recently updated in 2004 and outlines APCD plans and control measures designed to attain the state air quality standards for O₃. The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of the County's General Plan. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS.

The APCD has also developed the air basin's input to the SIP, which is required under the federal CAA for areas that are out of attainment of air quality standards. The latest SIP update was submitted by the CARB to the USEPA in 1998. The attainment schedule in the SIP called for the SDAB to attain the NAAQS for O₃ by 1999. The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin. The SIP also includes rules and regulations that have been adopted by the APCD to control emissions from stationary sources. These SIP-approved rules may be used as a guideline to determine whether a project's emissions would have the potential to conflict with the SIP and thereby hinder attainment of the NAAQS for O₃.

Attainment (long-term maintenance) of the standards is the goal of each air basin. As of July 28, 2003, the San Diego Air Basin has been reclassified as an attainment area for the 1-hour NAAQS for O₃. On April 15, 2004, the SDAB was designated a basic nonattainment area for the 8-hour NAAQS for O₃. The SDAB is in attainment for the NAAQS for all other criteria pollutants. The SDAB is currently classified as a nonattainment area under the CAAQS for O₃ and particulate matter less than or equal to 10 microns (PM₁₀).

Background Air Quality

The APCD operates a network of ambient air monitoring stations throughout San Diego County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest ambient monitoring stations to the project site are the Otay Mesa station located approximately 7.9 miles southeast of the project site and the Chula Vista station, (which is the nearest station that measures particulate matter less than or equal to 2.5 microns [$PM_{2.5}$]) located approximately 1.3 miles northwest of the project site. Because the Otay Mesa monitoring station is located in areas where there is substantial traffic congestion and near the U.S.-Mexico International Border, it is likely that pollutant concentrations measured at those monitoring stations are higher than concentrations that would be observed or measured in the project area, and would, thus, provide a conservative estimate of background ambient air quality. Ambient concentrations of pollutants over the last three years are presented in the Air Quality Impact Analysis (Appendix C). Air quality has shown improvement in the SDAB such that there have been no violations of standards for CO, NO_x and $PM_{2.5}$ since 2006 in the project area, and very low occurrences of violations for PM_{10} , and O_3 . However, since PM_{10} , and O_3 have been exceeded, the SDAB is considered in non-attainment for these pollutants.

2.2.2 Analysis of Project Effects and Determination as to Significance

2.2.2.1 Conformance to the Regional Air Quality Strategy

Guidelines for the Determination of Significance

The following guideline for determining significance is based on the County of San Diego Guidelines for Determining Significance – Air Quality (March 19, 2007):

A significant impact on the RAQS would occur if the project would:

1. Conflict with or obstruct the implementation of the San Diego RAQS and/or applicable portions of the SIP.

Analysis

Conformance to the Regional Air Quality Strategy (Guideline 1)

As detailed under Existing Conditions, the RAQS and associated SIP relies on SANDAG growth projection information based on the County's General Plan to project future emissions and determine the appropriate strategies to control emissions. The SANDAG projections indicate that the South Bay Subregional Area would require 176.1 additional acres of commercial uses by 2020; 49.4 acres of commercial uses (including the project) are reasonably foreseeable to be developed in the vicinity (Urban Crossroads 2010). Since this commercial growth projection does not exceed the planned growth projections for the area, the proposed project is considered to be consistent with the SANDAG growth projections. **As the proposed development would comply with the SANDAG growth projections, and the RAQS and SIP are based on these projections, the project would have a less than significant impact on the RAQS and SIP.**

2.2.2.2 Conformance to Federal and State Ambient Air Quality Standards

Guidelines for the Determination of Significance

The following guidelines for determining significance are based on the County of San Diego Guidelines for Determining Significance – Air Quality (March 19, 2007).

A significant impact on federal and state air quality standards would occur if the project would:

1. Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation.
2. Result in emissions that exceed 250 pounds per day of NO_x, or 75 pounds per day of VOCs.
3. Result in emissions of carbon monoxide that when totaled with the ambient concentrations will exceed a one-hour concentration of 20 parts per million (ppm) or an eight-hour average of 9 ppm.
4. Result in emissions of PM_{2.5} that exceed 55 pounds per day.
5. Result in emissions of PM₁₀ that exceed 100 pounds per day and increase the ambient PM₁₀ concentration by five micrograms per cubic meter (5.0 µg/m³) or greater at the maximum exposed individual.

Analysis

Construction Emissions (Guidelines 1 through 5)

The construction activity was assumed to be phased over approximately 14 months, with the site grading lasting approximately six months. Approximately 7.4 acres of grading was assumed to occur at any one time, and rough grading activity was assumed to not overlap with other phases of construction activity.

The EOMSP EIR identified the following mitigation measure related to construction emissions: “The County shall require applicants to use several techniques to reduce potentially significant construction emissions.” Consistent with the EOMSP EIR, the project will implement the following design measures during construction to minimize construction emissions: mandatory dust control measures (watering), covering haul vehicles, replanting disturbed areas, restricting vehicle speeds to 15 mph or less to control fugitive dust, maintaining construction equipment to ensure proper timing and tuning of engines, keeping equipment maintenance records, minimize idling of construction equipment to five minutes, use low-sulfur diesel fuel in construction equipment (required by CARB), and ensure that rough grading does not overlap with other phases of construction (i.e., paving, undergrounding, building and architectural coatings). These measures are described under Section 1.2.2, Technical, Economic, and Environmental Characteristics, and listed in Chapter 7.0, List of Mitigation Measures and Environmental Design Considerations.

Emissions related to grading, underground/infrastructure work, paving, building construction, architectural coatings, and construction worker vehicles are listed in Table 2.2-3. As shown in Table 2.2-3, the project construction activities would not result in the exceedance of any air quality standard for carbon monoxide (CO), volatile organic compounds (VOCs), nitrogen oxides (NO_x), sulfur oxides (SO_x), PM₁₀, or PM_{2.5} with the implementation of required dust management (per San

Diego County Grading Ordinance, Section 87.428). **Since the project would not exceed any air quality standard during construction and would not substantially contribute to an existing air quality violation, the air quality impact would be less than significant.**

Operational Emissions (Guidelines 1 through 5)

The proposed project operations that would produce pollutant emissions are related to vehicular traffic, combustion of natural gas, landscaping maintenance, and architectural coating maintenance (i.e., painting). In keeping with the EOMSP EIR mitigation measure, the project includes bicycle facilities to promote the use of alternative transportation methods. Refer to Chapter 7.0, List of Mitigation Measures and Environmental Design Considerations, for more information.

The results of the operational emissions calculations are summarized in Tables 2.2-4a (summer) and 2.2-4b (winter) and are compared to the significance guidelines cited above. Based on the estimates of emissions associated with long-term project operational activity, the emissions of CO, PM₁₀, and VOCs would exceed the screening-level thresholds. The project operation would not result in the exceedance of NO_x, SO_x, or PM_{2.5} air quality standards. While the CO emissions would exceed the screening level threshold, the project's CO impact is considered less than significant considering that the CO hotspot analysis (Section 2.2.2.3) determined that ambient air quality standards for CO would not be exceeded. **Therefore, the project would result in significant operational air quality impacts related to VOCs and PM₁₀ (Impact AQ-1).**

2.2.2.3 Impact to Sensitive Receptors

Guidelines for the Determination of Significance

The following guidelines for determining significance are based on the County of San Diego Guidelines for Determining Significance – Air Quality (March 19, 2007):

A significant impact to sensitive receptors would occur if the project would:

1. Place sensitive receptors near CO "hotspots" or create CO "hotspots" near sensitive receptors.
2. Result in exposure to Toxic Air Contaminants (TACs) resulting in a maximum incremental cancer risk greater than one in one million without application of Toxics-Best Available Control Technology or a health hazard index greater than one.

Analysis

Sensitive Receptors (Guideline 1)

Air quality regulators typically define sensitive receptors as schools (Preschool-12th Grade), hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. However, for the purposes of CEQA analysis in the County of San Diego the definition of a sensitive receptor also includes residents. Adjacent land uses to the proposed project site are generally vacant or industrial land uses. The potential to impact sensitive receptors in the project area is primarily a concern for the residents located approximately 1.5 miles southwest of the project site (across the

U.S./Mexico border), prisoners located at the Donovan State Prison located approximately one mile northeast of the project site, and residents located approximately four miles to the northwest of the project site. Additionally, five sensitive residential receptors at three different generalized locations were identified in the project vicinity: three residences located along Otay Mesa Road, approximately one mile east of the project site, one residence located between the prisons, approximately 1.75 miles to the northeast, and one residence located approximately three miles to the north on Kuebler Ranch Road. Currently, no other sensitive receptors exist in the project vicinity.

Toxic Air Contaminants (Guideline 2)

Construction Emissions

Diesel exhaust particulate matter is known in the state of California as a TAC. The risks associated with exposure to substances with carcinogenic effects are typically evaluated based on a lifetime of chronic exposure, which is defined in the California Office of Environmental Health Hazard Assessment (OEHHA) guidelines, “The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments,” as 24 hours per day, 7 days per week, 365 days per year, for 70 years. Because diesel exhaust particulate matter is considered to be carcinogenic, long-term exposure to diesel exhaust emissions has the potential to result in adverse health impacts. Diesel exhaust particulate matter would be emitted during construction due to the operation of heavy equipment at the site.

Under Rule 1200, permits to operate may not be issued when emissions of TACs result in an incremental cancer risk greater than one in a million without application of Toxics-BACT (T-BACT), or an incremental cancer risk greater than 10 in a million with application of T-BACT, or a health hazard index (chronic and acute) greater than one. Based on air dispersion modeling contained in Appendix C, the maximum excess cancer risk predicted would be 0.32 in one million. This value is below the County of San Diego’s significance guideline of one in a million. A non-carcinogenic hazard risk assessment of diesel particulates was also completed and was based on Reference Exposure Level (refer to Appendix C). The non-carcinogenic hazard risk assessment determined the project would result in a hazard index of 0.059, which is far less than the hazard threshold of one in a million. **Thus, the risk associated with exposure to diesel particulates from construction of the proposed project would be less than significant.**

Operational Emissions

In addition to criteria pollutants, vehicular traffic may result in emissions of TACs. Based on the County of San Diego’s requirements, a quantitative evaluation of the potential for risks associated with exposure to diesel particulate emissions generated by vehicles accessing the site was performed. Potential impacts to existing sensitive receptors were evaluated in a health risk assessment (HRA).

The off-site point of maximum health impact (PMI), which indicates the highest degree of risk, is located southeast of the project site, along Harvest Road. At this location, the risk would be 7.7 in a million. While this exceeds the County’s significance guideline of one in a million, the impact would be less than significant because no sensitive receptors exist in this area.

The maximally exposed individual resident (MEIR) was identified through a series of maps and aerial photographs. The MEIR for excess cancer risk is conservatively assumed to be within the Donovan State Prison which is located approximately one mile northeast of the site. The incremental cancer risk predicted for the MEIR was estimated to be 0.14 in a million, which is below the County significance guideline. The maximally exposed individual worker (MEIW), for the nearest worker adjacent to the project site, is located to the west of the project site. The excess cancer risk for the MEIW, calculated on the basis of the worker exposure duration, was estimated to be 0.42 in a million. This value is also below the significance guideline of one in a million. **Therefore, as no sensitive receptors would be exposed to cancer risk in excess of one in a million, implementation of the project would result in a less than significant TAC impact on sensitive receptors.**

CO Hot Spots (Guideline 1)

To further evaluate whether the project would result in a significant air quality impact, an assessment to evaluate whether emissions of CO would cause a ground-level exceedance of the NAAQS or CAAQS was conducted. Projects involving traffic impacts may result in the formation of locally high concentrations of CO, known as CO “hot spots.” To verify that the proposed project would not cause or contribute to a violation of the CO standard, a screening evaluation of the potential for CO “hot spots” was conducted based on the data from the project traffic study and the intersections with the highest potential for CO hot spot formation.

The analysis determined that, while overall CO emissions generated during long-term project operational activity would exceed significance guidelines for emissions of CO, no CO hotspots would result from the addition of project traffic (Table 2.2-5). The highest one-hour CO hot spot level was calculated to be 7.5 ppm and the highest eight-hour concentration was calculated to be 4.7 ppm. These levels are below the County’s CO hotspot one-hour guideline of 20 ppm and eight-hour guideline of 9.0 ppm. Since a less than significant impact would occur at the intersection with the highest potential for CO hotspot formation and since the SDAB is a maintenance area for CO and continued attainment has been verified with the SDAPCD, less than significant impacts are anticipated to occur at any other locations in the project vicinity as a result of the proposed project. In addition, sensitive receptors have not been identified in the project vicinity. **Therefore, the project would result in a less than significant CO hot spot impact to sensitive receptors.**

2.2.2.4 Odor Impacts

Guidelines for the Determination of Significance

The following guidelines for determining significance are based on the County of San Diego Guidelines for Determining Significance – Air Quality (March 19, 2007):

A significant odor impact would occur if the project would:

1. Either generate objectionable odors or place sensitive receptors next to existing objectionable odors, which will affect a considerable number of persons.

Analysis

Odor (Guideline 1)

During construction, diesel equipment operating at the site could generate some nuisance odors. However, due to the distance from existing sensitive receptors to the project site and the temporary nature of construction, odors associated with project construction would be less than significant. Because the operation of the proposed project would not generate substantial odors and no sensitive receptors are located in the vicinity, the project's operational odor impact would be less than significant. **Thus, odor impacts would be less than significant.**

2.2.3 Cumulative Impact Analysis

Guidelines for the Determination of Significance

The following guidelines for determining significance are based on the County of San Diego Guidelines for Determining Significance – Air Quality (March 19, 2007):

A significant cumulative air quality impact would occur if the project would:

Construction and Operational Phases

1. Result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is non-attainment under an applicable Federal or State Ambient Air Quality Standard (including emissions which exceed the SLTs for ozone precursors listed in Table 2.2-2).

Construction Phase

2. Have a significant direct impact on air quality with regard to emissions of PM₁₀, PM_{2.5}, NO_x and/or VOCs, would also have a significant cumulatively considerable net increase.
3. Generate emissions which, in combination with the emissions of concern from other proposed projects or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern, would be in excess of the guidelines identified in Section 2.2.2.2 of this document.

Operational Phase

4. Not conform to the RAQS and/or have a significant direct impact on air quality with regard to operational emissions of PM₁₀, PM_{2.5}, NO_x and/or VOCs.
5. Cause road intersections to operate at or below a LOS E (analysis only required when the addition of peak-hour trips from the proposed project and the surrounding projects exceeds 2,000) and creates a CO "hotspot."

Analysis

In analyzing cumulative impacts from a proposed project, the analysis must specifically evaluate whether the cumulative impacts are significant, and whether the project's contribution to the cumulative increase in pollutants is cumulatively considerable. A project that has a significant impact on air quality with regard to emissions of PM₁₀, PM_{2.5}, NO_x and/or VOCs, as determined by the screening criteria outlined above, could have a cumulatively considerable contribution to the adverse effect. With regard to criteria pollutants, the cumulative study area is the entire San Diego Air Basin covered by the RAQS and SIP. Impacts associated with fugitive dust from

construction are generally localized, so the cumulative study area for fugitive dust is within a one-quarter-mile radius of the project site.

Construction Emissions (Guidelines 1, 2, and 3)

Impacts associated with fugitive dust from construction would be localized, and would affect the area within approximately one-quarter mile of the project site. Five projects are within one-quarter mile of the project site: SR-905, Sunroad Centrum Tech Center, Pilot Travel Center, Maple Leaf Industrial, and Interstate Industrial Centre. In order for the potential for cumulative PM_{10} and $PM_{2.5}$ impacts to occur, simultaneous construction/grading would need to occur on both the proposed project site and on another parcel that is located within 150 meters of the project site. However, surrounding cumulative projects would also be obligated to comply with applicable project design measures and local ordinances requiring dust control. These measures would further reduce the cumulative effect of fugitive PM_{10} and $PM_{2.5}$ emissions. The amount of PM_{10} , $PM_{2.5}$, NO_x and/or VOCs emitted by the proposed project construction would be less than the significance guideline with the implementation of the required dust control measures (see Table 2.2-3). Since these guidelines are established to protect regional air quality, take into account future growth and the project would emit construction emissions below the threshold, construction emissions associated with the project are not considered cumulatively considerable. **Therefore, the proposed project would have a less than significant cumulative impact with respect to PM_{10} , $PM_{2.5}$, NO_x , or VOCs during short-term construction activities.**

Operational Emissions (Guidelines 1, 4, and 5)

Assessment of cumulative operational impacts is based on the SDAPCD's RAQS forecast of attainment of the ambient air quality standards in accordance with the requirements of the federal and state CAAQs. Additionally, the air quality analysis also takes into account San Diego Association of Government's (SANDAG) forecasted future regional growth.

The planned projects account for the addition of approximately 115,932 ADT. Based on the traffic report (Appendix B), the cumulative projects plus the project-related traffic could cause increased delays (LOS E or worse) at the intersections evaluated in the CO hotspot analysis. However, as detailed in Section 2.2.2.3, no CO "hotspots" would form as a result of cumulative and project-related traffic.

An inconsistency with the SANDAG growth project model could indicate a significant cumulative impact if the project would generate more growth than anticipated in the RAQS cumulative evaluation. As previously mentioned, the project is consistent with SANDAG growth projections for the project area and, hence, is consistent with the RAQS forecast. Therefore, the proposed project would not contribute to a cumulatively significant RAQS impact. Despite consistency with the RAQS, the proposed project would result in a significant direct impact to air quality with regard to emissions of VOCs and PM_{10} since the SDAB is in non-attainment for ozone and PM_{10} and any significant direct increase of ozone, ozone precursors (i.e., CO, NO_x and VOCs) and PM_{10} is considered a significant cumulative impact. **Thus, the proposed project's increase in VOCs and PM_{10} would result in a significant cumulative impact with respect to ozone and PM_{10} (Impact AQ-2).**

2.2.4 Significance of Impacts Prior to Mitigation

Based on the analysis provided above, the proposed project would have the following significant impacts prior to mitigation.

Impact AQ-1: The project would result in operational VOCs and PM₁₀ emissions that would result in a significant, direct air quality impact.

Impact AQ-2: The proposed project's significant increase in VOCs and PM₁₀ would have a cumulatively significant air quality impact.

2.2.5 Mitigation

As the primary source of VOC and PM₁₀ impacts is automobile trips associated with the proposed project, the Project Applicant is unable to directly implement measures to substantially reduce VOC and PM₁₀ impacts. In general, existing and future state and federal regulations on automobile emissions will be the most effective means to reduce mobile-source VOC and PM₁₀ emissions.

While construction-generated VOC and PM₁₀ is not significant on its own, certain design features during construction can be included to improve the overall operational VOC and PM₁₀ including a low-VOC paint requirement on the site plan, and incorporating the grading features listed in Sections 7.2.1, including:

- Adherence to best management practices which include the application of water on disturbed soils three times per day (3.2-hour watering interval), covering haul vehicles, replanting disturbed areas as soon as possible and restricting vehicle speeds to 15 mph or less, to control fugitive dust (PM₁₀).
- Maintain construction equipment to ensure proper timing and tuning of engines; with maintenance records and equipment design specifications data sheets kept onsite during construction activities.
- Contractor shall ensure construction equipment idling not to exceed 5 minutes, as required by CARB.
- Contractor shall ensure use of low-sulfur diesel fuel in construction equipment, as required by CARB.
- Rough grading will not overlap with other phases of construction (i.e., paving, undergrounding, building and architectural coatings).

In addition, the proposed project includes several features that would reduce operational air emissions including the provision of sidewalks and internal pedestrian walkways, preferred carpool/vanpool parking, and bicycle parking (Section 7.2.2). In addition, the location of the project would indirectly reduce VOC and PM₁₀ emissions by reducing the number of vehicle miles associated with trips to regional shopping centers. With the project, shoppers from Mexico could not have to travel as far as to reach a major retail destination in the U.S. In addition, the customer base from EOM and Brown Field would proportionately reduce the vehicle miles traveled and associated air emissions.

2.2.6 Conclusion

Because the primary source of the project's contribution of VOC and PM₁₀ is automobile emissions, which are beyond the control of the Project Applicant, the significant direct and cumulative air quality impacts from the proposed project would not be reduced to a less than significant level. However, the project has incorporated design features to the extent feasible to minimize the project's direct contribution to these pollutants. In addition, the project is located to capture a market that is developing in the specific plan area, in the City of San Diego around Brown Field, and from Mexico. Therefore, the vehicle trips that would be generated could go a greater distance should the project not be built.

**Table 2.2-1
FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS**

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary	Secondary
Ozone (O ₃)	1 Hour	0.09 ppm (180 µg/m ³)	---	Same as Primary Standard
	8 Hour	0.070 ppm (137 µg/m ³)	0.08 ppm (157 µg/m ³)	
Respirable Particulate Matter (PM ₁₀)	24 Hour	50 µg/m ³	150 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	20 µg/m ³	---	
Fine Particulate Matter (PM _{2.5})	24 Hour	No Separate State Standard	35 µg/m ³	Same as Primary Standard
	Annual Arithmetic Mean	12 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m ³)	9.0 ppm (10 mg/m ³)	None
	1 Hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)	---	
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	---	0.053 ppm(100 µg/m ³)	Same as Primary Standard
	1 Hour	0.25 ppm (470 µg/m ³)	---	
Lead	30 Day Average	1.5 µg/m ³	---	---
	Calendar Quarter	---	1.5 µg/m ³	Same as Primary Standard
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	---	0.03 ppm (80 µg/m ³)	---
	24 Hour	0.04 ppm (105 µg/m ³)	0.14 ppm (365 µg/m ³)	---
	3 Hour	---	---	0.5 ppm (1300 µg/m ³)
	1 Hour	0.25 ppm (655 µg/m ³)	---	---
Sulfates	24 Hours	25 µg/m ³	NO FEDERAL STANDARDS	
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)		
Visibility Reducing Particulates	8 Hour (10 AM to 6 PM, PST)	Extinction coefficient of 0.23 per km, visibility of ten miles or more due to particles when relative humidity is less than 70 percent.		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m ³)		

Source: CARB 2006
ppm=parts per million
mg/m³=milligrams per cubic meter
µg/m³=micrograms per cubic meter

Table 2.2-2
COUNTY SIGNIFICANCE GUIDELINES FOR AIR QUALITY

Pollutant	Total Emissions		
Construction Emissions (Lbs/Day)			
Respirable Particulate Matter (PM ₁₀)	100		
Oxides of Nitrogen (NO _x)	250		
Oxides of Sulfur (SO _x)	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOCs)	75		
Operational Emissions			
	Lbs/Hour	Lbs/Day	Tons/Year
Respirable Particulate Matter (PM ₁₀)	---	100	15
Fine Particulate Matter (PM _{2.5})	---	55	10
Oxides of Nitrogen (NO _x)	25	250	40
Oxides of Sulfur (SO _x)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	---	3.2	0.6
Volatile Organic Compounds (VOC)	---	75	13.7

Source: Guidelines for Determining Significance and Report Content Requirements for Air Quality, March 19, 2007.

Lbs=pounds

Table 2.2-3
MAXIMUM DAILY ESTIMATED CONSTRUCTION EMISSIONS
(Lbs/Day)

Emission Source	CO	VOCs	NO _x	SO _x	PM ₁₀	PM _{2.5}
<i>Grading Activity</i>						
Fugitive Dust	0	0	0	0	76.69	16.02
Grading Equipment	62.25	14.50	129.19	0	5.44	5.01
Grading Worker Trips	2.80	0.09	0.15	0	0.02	0.01
TOTAL	65.05	14.59	129.34	0.00	82.15	21.04
Screening-Level Thresholds	550	55	250	250	100	55
Significant?	No	No	No	No	No	No
<i>Construction Activity</i>						
<i>Underground/Infrastructure Activity</i>						
Underground/Infrastructure Equipment	13.61	3.30	26.62	0	1.52	1.40
Paving Worker Trips	1.53	0.05	0.08	0	0.01	0.01
<i>Paving Activity</i>						
Off-Gas Emissions	0	2.38	0	0	0	0
Off-Road Equipment	14.08	3.87	24.98	0	1.73	1.59
On-Road Equipment	2.41	0.47	7.07	0.01	0.31	0.26
Paving Worker Trips	1.78	0.06	0.10	0	0.01	0.01

Table 2.2-3 (cont.) MAXIMUM DAILY ESTIMATED CONSTRUCTION EMISSIONS (Lbs/Day)						
<i>Building Construction/Architectural Coating</i>						
Emission Source	CO	VOCs	NO_x	SO_x	PM₁₀	PM_{2.5}
<i>Building Construction/Architectural Coating</i>						
Building Construction Equipment	16.80	4.23	27.40	0	2.14	1.97
Building Vendor Trips	1.97	0.18	2.19	0	0.10	0.08
Building Worker Trips	19.67	0.62	1.05	0.02	0.16	0.08
Architectural Coating	0.	41.02	0	0	0	0
Architectural Coating Worker Trips	0.50	0.02	0.03	0	0	0
TOTAL	72.36	56.20	89.52	0.03	5.98	5.40
Screening-Level Thresholds	550	75	250	250	100	55
Significant?	No	No	No	No	No	No

Source: Urban Crossroads 2010a

Lbs=pounds

Table 2.2-4a TOTAL OPERATIONAL EMISSIONS (SUMMER) (Lbs/Day)						
Emission Source	VOC	NO_x	CO	SO_x	PM₁₀	PM_{2.5}
Area Source Emissions ¹	2.27	3.17	4.24	0	0.01	0.01
Operational Emissions ²	90.08	133.49	1,179.33	1.16	203.59	39.50
TOTAL	92.35	136.66	1,183.57	1.16	203.60	39.51
Screening-Level Thresholds	75	250	550	250	100	55
Significant?	Yes	No	No ³	No	Yes	No

Source: Urban Crossroads 2010a

Lbs=pounds

¹ Area source emissions included natural gas, landscape maintenance equipment, and architectural coating emissions.

² Operational emissions includes vehicular emissions and fugitive dust related to vehicular travel.

³ While CO exceeds the County of San Diego screening guidelines, the project is not considered to have a significant CO emission impact since no CO hotspots would occur.

Table 2.2-4b TOTAL OPERATIONAL EMISSIONS (WINTER) (Lbs/Day)						
Emission Source	VOC	NO_x	CO	SO_x	PM₁₀	PM_{2.5}
Area Source Emissions ¹	2.14	3.15	2.64	0	0.01	0.01
Operational Emissions ²	110.20	194.44	1,303.86	1.02	203.59	39.50
TOTAL	112.34	197.59	1,306.50	1.02	203.60	39.51
Screening-Level Thresholds	75	250	550	250	100	55
Significant?	Yes	No	No ³	No	Yes	No

Source: Urban Crossroads 2010a

Lbs=pounds

¹ Area source emissions included natural gas, landscape maintenance equipment, and architectural coating emissions.

² Operational emissions includes vehicular emissions and fugitive dust related to vehicular travel.

³ While CO exceeds the County of San Diego screening guidelines, the project is not considered to have a significant CO emission impact since no CO hotspots would occur.

Table 2.2-5 CUMULATIVE (2020) CARBON MONOXIDE (CO) HOTSPOT LEVELS WITH SR-905 PHASES 1A AND 1B PLUS PROJECT (Parts Per Million)				
Intersection	AM Peak Hour	PM Peak Hour	8-hour Average	Significant?¹
La Media Road and Otay Mesa Road	7.4	7.4	4.6	No
Piper Ranch Road and Otay Mesa Road	6.9	7.5	4.7	No
Sanyo Avenue and Otay Mesa Road	6.9	7.0	4.3	No

Source: Urban Crossroads 2010a

¹ Based on the hourly threshold of 20.0 parts per million one-hour threshold and 9.0 parts per million eight-hour threshold.

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